

REMARKS

Claim 1 is amended, no additional claims are canceled in this response, and no claims are added in this response; as a result, claims 1-13 and 42-59 are now pending in this application.

No new matter has been added through the amendments to claim 1. Support for the amendments to claim 1 may be found for example, but not limited to, the specification at page 3, lines 1-18, at page 5, line 23 through page 8, line 11, and in FIG. 4 as originally filed.

Throughout the response, the phrases "Applicants" and "Applicant" both refer to Oleg Awsienko et al.

Allowable Subject Matter

Claims 42-59 were allowed. Applicants acknowledge the allowance of claims 42-59. Applicants also believe that claims 1-13 are allowable for at least the reasons stated below.

Objection to the Specification

The disclosure was objected to because of informalities. Specifically, the Office Action on page 2 states,

Refer to page 3 line 17. What is "3GIO"? Applicant has not responded to the question as to what this acronym stand for and its importance in the context of this invention.

Applicants respectfully disagree that the Applicants have not responded to this question. As again submitted by Applicants in the response mailed January 3, 2006,¹ Applicants stated,

In a previous response submitted to a prior Office Action (the previous response mailed May 26, 2005 in response to the prior Office Action mailed December 28, 2004), Applicant submitted the following reply to this rejection:

The disclosure is objected to because of informalities. Specifically, the Office Action requests a correction/clarification regarding the use of the term "3GIO" at page 3, line 16 of the specification. Applicant directs the Examiner's attention to page 1, lines 14-17 of the specification which states, "Most recently, switching fabric has been used as an interconnection means between the host and the end nodes of a processing domain. Some

¹ See Applicants' response mailed January 3, 2006 in reply to the Office Action mailed October 3, 2005 in the present application.

examples of switching fabric technologies that may be used include 3GIO, Rapid I/O[™], and HyperTransport[™]." Applicant submits that "3GIO" is clearly set forth in the patent specification so that the objection to the disclosure has been overcome, and withdrawal of the objection to the content of the specification is appropriate.

Applicant maintains that the above response provides an adequate clarification to the question presented in the above mentioned prior Office Action "What is '3GIO'?" The above quoted portion of Applicant's disclosure describes 3GIO as a switching fabric technology, along with Rapid I/O[™], and HyperTransport[™]. Persons of ordinary skill in the pertinent art would recognize and understand the term 3GIO.

Further, Applicant respectfully submits that the above referenced previous Office Action merely asked, "What is '3GIO?'," and never requested that the Applicant respond to the question of "what this acronym stand for and its importance in the context of this invention."

However, Applicant maintains that persons skilled in the art would recognize and understand the term 3GIO, and therefore a recitation of the meaning of the "acronym" 3GIO (Applicant does not admit that this is an acronym) is unnecessary for an understanding of the meaning of the term. Further, the Office Action fails to point out a statute, regulation, or a recitation in the Manual of Patent Examining Procedure (MPEP) that forms a basis for a requirement that the Applicant explain the "importance in the context of this invention" of the term 3GIO. Applicant directs attention to 35 U.S.C. § 112 which states in part:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention. (Emphasis added).

Because Applicant believes that the disclosure of the present invention complies with these requirements as set forth in 35 U.S.C. § 112, Applicant respectfully requests withdrawal of the objection to the disclosure of the specification.

The statements on page 2 of the Office Action appear to be a duplication, without any additional explanation, of the requests previously made by the Examiner. The statements also

fail to address or recognize the clarification and explanation provided in Applicants' responses to these requests, as quoted above. For example, the Office Action again fails to cite a statute, regulation, or a recitation in the Manual of Patent Examining Procedure (MPEP) that forms any basis for a requirement that the Applicants explain the "importance in the context of this invention" of the term 3GIO.

However, in order to be fully responsive and to overcome this objection, Applicants provide the following excerpt from the Wikipedia webpage,² "PCI Express was formerly known as **Arapaho** or **3GIO** for *3rd Generation I/O*." (Emphasis in original). Applicants do not admit or agree that this definition in any way limits the scope of the disclosure or the claims as provided in the present application. This definition is being provided here merely as a response to the Examiner's request as to "... what this acronym stand for. ..."

Applicants respectfully request that the objections to the specification be reconsidered in view of the above, and withdrawn by the Examiner.

§102 Rejection of the Claims

Claims 1-5 were rejected under 35 U.S.C. § 102(e) as being anticipated by Goodman et al. (U.S. 7,020,697). Applicants respectfully traverse the rejection of claims 1-5.

Applicants do not admit that Goodman et al. is prior art, and reserve the right to swear behind Goodman et al. at a later date. Nevertheless, Applicants respectfully submit that there is no need to swear behind Goodman et al. at this time because the claims are distinguishable over Goodman et al. for at least the reasons argued below.

The Office Action on pages 3-4 describes the basis for the rejection of claims 2-3, 4 and 5 in terms of "Walker discloses, . . . " rather than Goodman et al. However, based on the description used on pages 3-4 of the Office Action, Applicants assume that the use of the "Walker discloses" phrase was in inadvertent error, and that the text in the Office Action used in discussing claims 2-5 refers to portions of Goodman et al. Therefore, Applicants have preceded with the response assuming that the 35 U.S.C. § 102(e) rejection of claims 2-5 is based on Goodman et al., and not on Walker et al. However, if this assumption is incorrect, Applicants request clarification and correction of the basis for the rejection of claims 2-5, and reserve the

² Wikipedia, the free encyclopedia, < <http://en.wikipedia.org/wiki/3GIO> > (October 29, 2006).

right to supplement this response in view of any clarification or corrections that may be provided.

Claims 1-5 are not anticipated by Goodman et al. because Goodman et al. fails to disclose all of the subject matter included in claims -5, in as complete detail as is contained in claims 1-5, and as arranged in claims 1-5.³ For example, claim 1 as amended recites,

a multi-dimensional switching fabric coupled to said first processing domain and said second processing domain to provide peer-to-peer packet communication within said processing system on multiple orthogonal routing planes, **a first plane providing all of the routing** for intra-domain packet communication between any two or more processing nodes included in the first plurality of processing nodes, **and separately providing all of the routing** for intra-domain packet communication between any two or more processing nodes **included in the second plurality of processing nodes**, and **a second plane providing all of the routing for inter-domain packet communication** between the first processing domain and the second processing domain.
(Emphasis added).

Thus, claim 1 includes multiple orthogonal routing planes, the first plane providing all of the routing for intra-domain packet communication between any two or more processing nodes included in a first plurality of processing nodes, and separately providing all of the routing for intra-domain packet communication between any two or more processing nodes in a second plurality of processing nodes. Further, the multi-dimensional switching fabric includes a second plane providing all of the routing for inter-domain packet communication between the first processing domain and the second processing domain. In order for claim 1 to be anticipated by Goodman et al., all of this subject matter as include in claim 1, in as complete detail as contain in claim 1, and as arranged in claim 1, must be provided in Goodman et al.

³ Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *W. L. Gore & Assocs. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, A[nticipation] requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim*." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP ' 2131.

However and in contrast, FIG. 4 of Goodman et al. concerns, "A netcentric computing system 10."⁴ Goodman et al. further states:⁵

The web servers 98 are the primary interface to the clients 78, 79, 120 for all interactions with the applications of the netcentric computing system. The main task of the web servers 98 is to authenticate the clients 78, 79, 120, establish a secure from the clients 78, 79, 120 to the web servers 98 using encrypted messages, and allow the applications the clients 78, 79, 120 are using to transparently access the resources of the netcentric computing system 10.

Therefore, Goodman et al. relates to web servers 98 as the primary interface to clients 78, 79, and 120. As shown in FIG. 4 of Goodman et al., clients 120 are not located in enterprise location 102 or in enterprise location 104, but are part of supplier 108. Thus, web servers 98 interface to clients within an enterprise location such as enterprise location 102, and outside the enterprise location, such as supplier 108. Supplier 108 is shown in FIG. 4 of Goodman et al. as being coupled to Extranet 110 through firewall 94 of enterprise 102., and thus supplier 108 is also connected through enterprise 102 to enterprise 104. For at least these reasons, Goodman et al. fails to show multiple orthogonal routing planes, as included in claim 1. Further, Goodman et al. fails to disclose a first plane providing *all* of the routing for intra-domain packet communication between any two or more processing nodes in a first plurality of processing nodes, *and separately* providing all of the routing for intra-domain packet communication between any two or more processing nodes included in the second plurality of processing nodes. Goodman et al. also fails to show a second plane providing *all* of the routing for inter-domain packet communication.

Because Goodman et al. fails to disclose all of the subject matter included in claim 1, in as complete detail as is contained in claim 1, and as arranged as in claim 1, claim 1 is not anticipated by Goodman et al.

Claims 2-5 depend from claim 1, and so include all of the subject matter included in claim 1, and more. For example, but not limited to this example, claim 4 includes,

said multi-dimensional switching fabric includes at least one local switch associated with said first processing domain, at least one

⁴ See Goodman et al. at column 70, line 34.

⁵ See Goodman et al. at column 70, lines 55-62.

local switch associated with said second processing domain, and at least one global switch to provide packet communication between said first and second processing domains.

The Office Action fails to point out in Goodman et al. "at least one local switch associated with said first processing domain, at least one local switch associated with said second processing domain, and at least one global switch to provide packet communication between said first and second processing domains," as included in claim 4. The Office Action on page 4 relies in intranet connection 106 in Goodman et al. as describing a "global switch." However, the statements on page 4 of the Office Action that, "connection 106 (Global switch) allow the computing resources of the second enterprise location 104 to be shared or connected with the computing resources available at the first enterprise location 102," appear to be a mere statement of a result. The Office Action fails to point out any reference in Goodman et al. to a "Global switch" as implied by the Office Action.

Thus, the Office Action fails to point out in Goodman et al. a teaching of the multi-dimensional switching fabric including, "at least one local switch associated with said first processing domain, at least one local switch associated with said second processing domain, and at least one global switch to provide packet communication between said first and second processing domains," as included in claim 4.

For at least the reasons stated above, Goodman et al. fails to teach all of the subject matter included in claims 1-5, and thus claims 1-5 are not anticipated by, and are patentable over, Goodman et al. Applicants respectfully request withdrawal of the rejection, and reconsideration and allowance of claims 1-5.

§103 Rejection of the Claims

Claims 6-8 and 10-13.

Claims 6-8 and 10-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Goodman et al., as above, in view of Walker et al. Applicants respectfully traverse the rejection of claims 6-8 and 10-13.

Applicants do not admit that Walker et al. is prior art, and reserve the right to swear behind Walker et al. at a later date. Nevertheless, Applicants respectfully submit that there is no

need to swear behind Walker et al. at this time because the claims are distinguishable over the proposed combination of Goodman et al. and Walker et al. for at least the reasons argued below.

The Office Action fails to provide a proper basis for forming the proposed combination of Goodman et al. and Walker et al., and thus fails to meet the burden for establishing a prima facie case of obviousness with respect to claims 6-8 and 10-13.

The Office Action fails to provide proper evidence to support a suggestion or motivation to combine⁶ Goodman et al. with Walker et al., and also fails to show how these documents, or any other evidence of record, suggests the desirability⁷ of the proposed combination of Goodman et al. and Walker et al. In an attempt to meet these requirements, the Office Action on page 6 states,

It would have been obvious to a person of ordinary skill in art to combine the capability of above claims into the capability of Goodman. These capabilities can be combined at the local switch and global switch as taught by Walker. The suggestion to do so is motivated to regulate traffic across multi-domains

Applicants believe that these statements as provided in the Office Action fail meet the burden for establishing a *prima facie* case of obviousness with respect to claims 6-8 and 10-13 for at least the reasons that these statements fail to properly state the standard for establishing a *prima facie* case of obviousness.

For example, obviousness requires that "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious **at the time the invention was made** to a person having ordinary skill in the art to which said subject matter pertains."⁸ (Emphasis added). However, the statement on page 6 of the Office Action fails to include any reference to the time of the invention, and thus fails to properly state a *prima facie* basis for the obviousness rejection of claims 6-8 and 10-13.

⁶ The Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

⁷ The fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990); MPEP § 2143.01.

⁸ 35 U.S.C. § 103(a), (Amended Nov. 8, 1984, Public Law 98-622, sec. 103, 98 Stat. 3384; Nov. 1, 1995, Public Law 104-41, sec.1, 109 Stat. 3511.)

In addition, the Office Action states that "a person of ordinary skill in art to combine the capabilities of above claims into the capability of Goodman." Thus, the Office Action appears to be combining Applicants' claimed subject matter with Goodman et al. This clearly fails to meet the requirements for establishing a *prima facie* case of obviousness with respect to claims 6-8 and 10-13, wherein the burden of the Office Action in establishing a *prima facie* case of obviousness requires a showing of "what the combined teaching of the references would have suggested to those of ordinary skill in the art."⁹ Here, the Office Action describes "combining the capability of above claims into the capability of Goodman," but fails to show how the proposed combination of Goodman et al. and *Walker et al.* would teach or suggest the subject matter included in claims 6-8 and 10-13.

Still further, the Office Action fails to point to any portion in either Goodman et al. or in Walker et al., or to any other evidence, to support the statements made on page 6 of the Office Action, including,

These capabilities can be combined at the local switch and the global switch as taught by Walker. The suggestion to do so is motivated to regulate traffic across multi-domain

Without such a showing, these statements fail to meet the requirements for forming the proposed combination of Goodman et al. and Walker et al., and appear to be a mere reconstruction of the Applicants' claimed subject matter using impermissible hindsight.¹⁰

For at least these reasons, the Office Action fails to meet the burden of establishing a *prima facie* case of obviousness with respect to claims 6-8 and 10-13.

Claims 6-8 and 10-13 are not obvious in view of the proposed combination of Goodman et al. and Walker et al. because the proposed combination fails to teach or suggest all of the subject matter included in claims 6-8 and 10-13.

Claims 6-8 and 10-13 each include subject matter not taught or suggested by the proposed combination of Goodman et al. and Walker et al., and so these claims are not obvious, and are patentable, over the proposed combination of Goodman et al. and Walker et al.

⁹ See *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)).

¹⁰ The Examiner must avoid hindsight. *In re Bond* at 834.

Claims 6-8 and 10-13 depend from claim 1, and so include all of the subject matter included in claim 1, and more. Applicants believe they have established that Goodman et al. fails to teach or suggest all of the subject matter included in claim 1. Further, Applicants' representatives fail to find in, and the Office Action fails to point out in Walker et al., a teaching or suggestion of this claimed subject matter as included in claims 6-8 and 10-13 and missing from Goodman et al. Thus, the Office Action fails to point out how the proposed combination of Goodman et al. and Walker et al. teaches or suggests the claimed subject matter included in claims 6-8 and 10-13. Therefore, claims 6-8 and 10-13 are not obvious, and are patentable, over the proposed combination of Goodman et al. and Walker et al.

For at least the reasons stated above, Applicants respectfully request reconsideration and withdrawal of the rejection, and allowance of claims 6-8 and 10-13.

Claim 9

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Goodman in view of Walker et al., as in claim 1 above, in view of Nabkel et al. (U.S. 6,674,725). Applicants respectfully traverse the rejection of claim 9.

Applicants do not admit that Nabkel et al. is prior art, and reserve the right to swear behind Nabkel et al. at a later date. Nevertheless, Applicants respectfully submit that there is no need to swear behind Nabkel et al. at this time because claim 9 is distinguishable over the proposed combination of Goodman et al., Walker et al., and Nabkel et al. for at least the reasons argued below.

The Office Action fails to provide a proper basis for forming the proposed combination of Goodman et al., Walker et al., and Nabkel et al., and thus fails to meet the burden for establishing a prima facie case of obviousness with respect to claim 9.

Applicants believe they have shown that the Office Action fails to provide a proper basis for forming the proposed combination of Goodman et al. and Walker et al. with respect to the rejection of claims 6-8 and 10-13. The rejection of claim 9 also depends on a proposed combination which includes Goodman et al. and Walker et al. However, the Office Action provides no additional basis for forming the proposed combination of Goodman et al. and Walker et al. in making the rejection claim 9. Therefore, the Office Action fails to establish a

proper basis for forming the proposed combination of Goodman et al. and Walker et al. in forming the proposed combination of Goodman et al., Walker et al., and Nabkel et al. By failing to meet the requirements for forming the proposed combination of Goodman et al., Walker et al., and Nabkel et al., the Office Action fails to meet the burden for establishing a *prima facie* case of obviousness with respect to claim 9.

Claim 9 is not obvious in view of the proposed combination of Goodman et al., Walker et al., and Nabkel et al. because the proposed combination fails to teach or suggest all of the subject matter included in claim 9.

Claim 9 includes subject matter not taught or suggested by the proposed combination of Goodman et al., Walker et al., and Nabkel et al., and so claim 9 is not obvious, and is patentable, over the proposed combination of Goodman et al., Walker et al., and Nabkel et al.

Claim 9 depends from claim 1, and so includes all of the subject matter included in claim 1, and more. Applicants believe they have established that the proposed combination of Goodman et al. and Walker et al. fails to teach or suggest all of the subject matter included in claim 1. Further, Applicants' representatives fail to find in, and the Office Action fails to point out in Nabkel et al., a teaching or suggestion of this claimed subject matter as included in claim 9 and missing from Goodman et al. and Walker et al. Thus, the Office Action fails to point out how the proposed combination of Goodman et al., Walker et al., and Nabkel et al. teaches or suggests the claimed subject matter included in claim 9.

For at least the reasons stated above, Applicants respectfully request reconsideration and withdrawal of the rejection, and allowance of claim 9.

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney (612-371-2132) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 30th day of October 2006.

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